NATIONAL SPATIAL DATA INFRASTRUCTURE

IMPLEMENTATION PLAN

U.S. DEPARTMENT OF THE INTERIOR

BUREAU OF LAND MANAGEMENT

WASHINGTON, D.C.

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INTRODUCTION

Implementation of Executive Order 12906, "Coordinating Geographic Data Acquisition and Access; The National Spatial Data Infrastructure" is critical to successful ecosystem management. This document contains the Bureau of Land Management (BLM) plan for implementing the Executive Order. The plan identifies actions taken to date, and outlines the remaining steps necessary.

Compliance with the Executive Order requires that the BLM:

- *Begin documenting all new geospatial data with the Federal Geographic Data Committee (FGDC) metadata standards*
- *Make metadata electronically accessible through the FGDC clearinghouse*
- *Develop a schedule (in consultation with the FGDC) for documenting existing data*
- *Adopt internal procedures to ensure use of the FGDC clearinghouse prior to using Federal funds to collect new data*
- *Contribute applicable geospatial data to the National digital geospatial data framework: Geographic Coordinate Data Base (GCDB), including parcel ownership; transportation; hydrographic; and other framework data*

SUMMARY OF EXISTING POLICY AND GUIDANCE

The policy and guidance summarized below have been issued in the BLM. A brief description of those policies having a significant impact on the implementation of the NSDI is provided. Additional policy and guidance has been issued to facilitate the development and implementation of national standards and operating procedures. This includes a policy for internal BLM coordination of spatial data activities under the Office of Management and Budget Circular A-16. Many of these are listed in appendix B, and are available upon request.

1. BLM GIS Transition

   The goal of BLM GIS Transition to the Modernization hardware and software is to merge ALMRS and resources data to support the BLM mission for maintaining healthy ecosystems. BLM transition guidance includes Bureauwide strategic and tactical plans and individual State Office plans.

   Commensurate with this goal are the following objectives:

   - Establish resource data definitions and standards, expand ongoing data standards definition efforts to support ecosystem management objectives, and pursue efforts to develop intergovernmental spatial data standards;
   - Promote data exchange and sharing agreements in support of the BLM mission for ecosystem management;
   - Deploy Modernization hardware/software, provide training, and ensure an organizational support structure to support the new technology;
   - Inventory and document digital spatial data as Official Agency Records and mandate the collection of metadata;
   - Identify relationships and dependencies, personnel resources, tasks and scheduling;
   - Provide policy, assumptions and constraints for moving the existing BLM GIS spatial data to the new platform; and
   - Develop and implement quality assurance procedures for spatial data to position the BLM for proactive participation in the National Spatial Data Infrastructure (NSDI).

2. BLM Geographic Sciences Policy - see appendix A

The Geographic Sciences Policy has been in effect in the BLM since February of 1993. It instructs all offices to:

- Ensure high quality data through standards, proper use of technology, and appropriate data handling procedures;

- Ensure compliance with national standards and policies for data sharing, exchange, aggregation, and use;

- Ensure the efficient use of technology for acquiring, processing, disposing, displaying, and archiving of spatial data;

- Ensure an appropriate skill and knowledge level among spatial data producers and users; and

- Ensure that related spatial and alphanumeric data standards, including metadata, are developed, evolve, and are managed.

PLANNED ACTIONS

GIS Transition Plan Tasks:

The BLM has developed a GIS Transition Strategic Plan to address both near and long term spatial data activities. The plan includes the following actions that will lead to compliance with the Executive Order:

- Define spatial data standards on a Bureauwide basis;
- Ensure that BLM requirements are considered as part of the FGDC endorsed spatial data standards;
- Adopt the base themes defined by the FGDC, to serve as the BLM framework;
- Implement the FGDC Content Standard for Spatial Metadata;
- Establish a process that promotes the use of existing spatial data and the cooperative collection of spatial data;
- Manage the BLM's digital spatial data as Official Agency Records;
- Position the BLM as the major source for public land survey, land title and mineral records data on federal lands;
- Become an active contributor to the National Geospatial Data Clearinghouse;
- Develop the BLM's Government Information Locator Service (GILS) component.

NSDI Plan Tasks:

The following tasks are interrelated and will overlap. This is purposeful since the actions required to apply a metadata standard and document existing data are similar. Both are addressed in the GIS Transition Strategic Plan. Compliance with OMB Circular A-130 will also satisfy some aspects of the Executive Order and is addressed as part of GIS transition.

Transition to the new GIS hardware and software will necessitate the inventory, evaluation and organization of geospatial data files. These are all steps needed to meet the requirements of the Executive Order. Circular A-130 compliance requires the BLM to establish access policy, which again is a requirement for making data available through a clearinghouse. Much of the Executive Order will be accomplished as part of the BLM's Modernization.

TASK 1: IMPLEMENT METADATA STANDARD FOR NEW DATA		DUE: 01/95	
Task Steps	Responsible Office	Start Date	End Date
1. Establish policy for use of the FGDC Content Standards for Digital Geospatial Metadata.	BLM Headquarters (WO-870)		Complete
2. Define standard BLM-specific metadata requirements, consistent with the FGDC standard and BLM's File Management System (FMS).	BLM Headquarters (WO-870 & DWO) Spatial Metadata Team	09/01/94	10/01/94
3. Establish domain values for Bureauwide implementation of the FGDC standard. FMS User Guide.	DWO/SC	10/01/94	11/15/94
4. Pilot test the FMS as implementation tool for the FGDC metadata standard.	Selected State Offices	12/01/94	01/15/95
5. Develop Informix tables for the FGDC metadata standard on the IBM hardware.	DWO/Oregon	10/01/94	12/30/94
6. Determine level of support requirements (hardware, software, personnel) for FMS implementation.	DWO	12/15/94	01/15/95
7. Issue follow-on policy and guidance for use of the FMS.	BLM Headquarters (WO-870)	10/01/94	02/01/95
8. Provide training and documentation on use of the FMS for implementation of the FGDC metadata standard.	DWO/NTC	02/01/95	---------->
9. Establish review procedures to ensure appropriate application of metadata, include in IRM review process.	BLM Headquarters (WO-870)	08/01/95	---------->

TASK 2: IMPLEMENT CLEARINGHOUSE PROCEDURES

DUE: 01/95

Task Steps	Responsible Office	Start Date	End Date
1. Provide guidance for States to document existing data as part of GIS transition.	BLM Headquarters (WO-870)	12/01/93	04/18/94
2. Provide guidance for States to document all new geospatial data using the FGDC metadata standard.	See Task 1		
3. Pilot test participation in the NSDI Clearinghouse.	State Offices	08/01/94	10/23/94
4. Develop formal procedures for contributions to the Clearinghouse.	WO-870/DWO	10/01/94	12/01/94
5. Evaluate cost recovery rates for geospatial data.	BLM Headquarters (WO-870)	ongoing	
6. Identify and establish key locations for Internet nodes.	BLM Headquarters (WO-870)	08/01/94	12/15/94
7. Coordinate with FGDC to establish BLM servers as part of the Clearinghouse.	BLM Headquarters (WO-870)	10/01/94	12/30/94
8. Issue policy for contributions to and use of the Clearinghouse.	BLM Headquarters (WO-870)	10/01/94	12/01/94
9. Issue guidelines and policy for annual data collection plans, including use of the clearinghouse - coordinate with FGDC for submission requirements.	BLM Headquarters (WO-870)	01/01/95	03/01/95 + annual
10. Issue policy for the development of partnerships. Policy influenced by data collection plans and coordination with FGDC.	BLM Headquarters (WO-870)	03/01/95	04/01/95

TASK 3: SCHEDULE FOR DOCUMENTING EXISTING DATA		DUE: 04/95	
Task Steps	Responsible Office	Start Date	End Date
1. Issue instructions to establish a schedule for documenting existing data.	BLM Headquarters (WO-870)	9/1/94	9/15/94
2. General review of data holdings, prepare State Spatial Data Transition Plans.	State Offices	9/15/94	01/15/95
3. Consolidate State Spatial Data Transition Plans into a bureauwide schedule for documenting existing data.	BLM Headquarters (WO-870)	11/15/94	02/29/95
4. Issue guidance necessary for refinement of individual State Office transition plans.	BLM Headquarters (WO-870)	1/15/95	2/15/95
5. Begin in-depth evaluation of data holdings and prioritize for co	State Offices	01/15/95	In conjunction with modernization
6. Begin application of metadata to existing data and converting to new platform.	State Offices	In conjunction with modernization	--------->

Appendix B
PUBLISHED POLICY AND GUIDANCE

Instruction Memorandums (IM's)

- IM No. 92-154, Geographic Coordinate Data Base Policy.
- IM No. 92-185, Geographic Coordinate Data Base Reporting Procedures.
- IM No. 93-80, Standard Naming Convention Policy for Data Elements.
- IM No. 93-147, BLM Geographic Sciences Policy
- IM No. 93-224, Change 1, Policy for Purchase Prior to Scheduled Site Implementation for Automated Land and Minerals Record System/Modernization
- IM No. 93-263, Data Dictionary and Data Standard Change Procedures
- IM No. 93-345, FY 1994 Proposed Annual Work Plan (PAWP), Subactivity 4550
- IM No. 94-14, Ecosystem Management in the BLM: From Concept to Commitment
- IM No. 94-51, Availability of Geographic Information System (GIS) for Field Offices
- IM No. 94-55, GIS Naming Standards to Support Modernization and Configuration Management (to SCD)
- IM No. 94-76, Corporate Resources Data Standards
- IB No. 94-80, Bureauwide Policy and Guidance for the Management of Information Resources
- IM No. 94-157, Coordination of Federal Geographic Data Committee and Interior Geographic Data Committee Activities.
- IM No. 94-172, BLM Spatial Data Transition Plan Template

BLM Manuals and Handbooks

- 9160 - Mapping Sciences
- 9161 - Cartography
- H-9161 - Cartography
- 1270 - Records Administration
- 1270-1 - BLM Electronic Records Administration
- H-1270-1 - BLM Official Agency Record Designation
- 1270-2 - Cost Recovery
- H-1270-2 - Cost Recovery
- 1278 - External Access Policy
- 1283 - Data Administration

Memorandums of Understanding and Interagency Agreements

- Memorandum of Understanding between the Bureau of Land Management and the U.S. Geological Survey concerning the Production and Exchange of Cartographic Products and Services. Signed September 10, 1993
- Interagency Agreement Between the Bureau of Land Management and the U.S. Geological Survey, for the Production of Digital Elevation Models. Signed July 5, 1994

UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
WASHINGTON, D.C. 20240

In Reply Refer To:
9160 (870)

November 30, 1994

Instruction Memorandum No. 95-36
Expires: 9/30/95

To: AD's, SD,s SCD, DWO

From: Director

Subject: National Spatial Data Infrastructure (NSDI) Implementation Plan
DD: 3/15/95

On April 11, 1994, the President signed Executive Order 12906, *Coordinating Geographic Data Acquisition and Access; The National Spatial Data Infrastructure (NSDI)*. This order directs Federal agencies to support the NSDI and outlines agency responsibilities including the collection of metadata and provision of metadata to an electronic clearinghouse. An article in the October/November issue of *Discovery* (the Office of IRM/Modernization newsletter) provides additional information about the NSDI. Also, the Federal Geographic Data Committee (FGDC) brochure titled, *The Value of Metadata*, attached, helps to explain the importance of this effort.

To ensure compliance with the Executive Order, the Department of Interior directed each bureau to develop an implementation plan for their support of the NSDI. The Bureau of Land Management's *(BLM) National Spatial Data Infrastructure Implementation Plan* is attached for your information. Many of the tasks in the NSDI plan were already identified as needed to convert our current GIS data to the Modernization hardware and software. These tasks are described in greater detail in the *Geographic Information Systems Transition Plan*, that was transmitted in Washington Office IB No. 94-243, February 25, 1994.

Compliance with the NSDI requires the BLM to:

Beginning no later than January 1, 1995;
- Document all new spatial data using the FGDC metadata standard.
- Make all metadata accessible to the Spatial Data Clearinghouse.

Beginning no later than April 1, 1995;
- Adopt procedures to ensure the use of the clearinghouse prior to new data collection using Federal funds.
- Adopt a schedule for documenting existing spatial data.

The tools and guidance are in place for the BLM to comply with the executive order. The File Management System (FMS) was recently developed by the Office of IRM/Modernization. States will implement this system and use it to capture metadata. The Office of IRM/Modernization IM No. 95-4000, *Release of the BLM File Management System and Data Translators, Version 94.09*, October 6, 1994, provides information on installing the FMS on Prime Computers. Also, the Environmental Systems Research Institute (ESRI) is developing a basic metadata capture capability within ARC/Info. However, until it is available to the Bureau through the Modernization contract, the Office of IRM/Modernization will provide an interim capability that is similar to what will be available from ESRI.

Beginning January 1, 1995, offices should use either the FMS on the Prime computers, or the interim capability provided by the Office of IRM/Modernization on the Modernization platform, to collect metadata. Contact Wendy Bullock, DW-111, (303) 236-3261 for information on acquiring and using either of these systems.

Washington Office IM No. 94-172, *Bureau of Land Management Spatial Data Transition Plan Template*, April 18, 1994, directs states to develop a plan prior to converting their existing GIS data to the Modernization platform. It also directs states to collect metadata during the data conversion process. States that have completed a Spatial Data Transition Plan that includes a schedule for data conversion/metadata collection, meet that requirement of the NSDI. States that have not yet submitted a schedule for data conversion with their Spatial Data Transition Plan must do so before March 15, 1995.

Additional guidance will be issued on access and use of the spatial data clearinghouse. All questions about the NSDI Plan or the Bureau's obligations to support the NSDI may be directed to Renee Duval, (202) 452-5017.

James W. Dryden

James W. Dryden
Acting Deputy Assistant Director, Land & Renewable Resources

2 Attachments:
1- Brochure: *The Value of Metadata* (^)
BLM *National Spatial Data Infrastructure Implementation Plan (12)*

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Washington, D.C. 20240

OCT 19 1994

In Reply Refer To:
9160/1283(870)

Memorandum

To: Deputy Assistant Secretary, Water and Science
Attn: Interior Geographic Data Committee, Executive Secretariat

Through: Bob Armstrong OCT 19 1994
Assistant Secretary, Land and Minerals Management

From: Director, Bureau of Land Management

Subject: Implementing the National Spatial Data Infrastructure (Executive Order 12906)

As directed by the Interior Geographic Data Committee (IGDC), the Bureau of Land Management (BLM) is forwarding its National Spatial Data Infrastructure (NSDI) Implementation Plan. We are confident that the Plan will contribute to the Department's leadership in the management of geospatial data.

Upon acceptance of the plan, copies will be forwarded to all BLM State Offices. The NSDI Implementation Plan provides strategic guidance for comprehensive geographic information systems and spatial data transition in the BLM.

Most of the policy to implement the Executive Order in the BLM has been issued. Additional policy requirements will be satisfied through Instruction Memoranda as part of the BLM's implementation plan for the NSDI. The requirements set forth by the Executive Order will be included in the BLM's Annual Work Plan. Funding to accomplish the above work will be derived from program activities.

Please direct any questions you have about the attached plan to Edward Harne, IGDC Representative, at (202)452-5007.

Attachment

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